

ABSTRACT

A power amplifier system (1) comprises a control circuit; a power amplifier (3) and a delay device (8). The control circuit comprises a detector (4) for detecting an instantaneous power level of an input signal; a threshold comparator (5); and a power supply voltage source (6). The threshold comparator is provided with a plurality of preset thresholds ( $TH_1$ ,  $TH_2$ ,  $TH_3$ ); wherein the threshold comparator compares the detected power level with the preset thresholds; wherein the power supply voltage ( $V_1$ ,  $V_2$ ,  $V_3$  and  $V_4$ ) is switched according to the output of the threshold comparator; and wherein the delay device (8) delays the input signal to the power amplifier to enable the power supply voltage to be adapted to the detected power level, such that the efficiency of the power amplifier (3) is optimised.